Do Academic Directors Promote Corporate Social Responsibility?

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Abstract

We find significant evidence that academic directors enhance firms' corporate social responsibility (CSR) performance after examining a sample of S&P 1,500 firms for years 2002 to 2011. The presence of academic directors in corporate board increases firms' CSR performance. Within academic directors, female academic directors have positive incremental effect on firm's CSR performance. We also find that academic directors' and female academic directors' influence on CSR activity is not similar across CSR components. Among seven qualitative components of CSR, academic directors have significant positive effect on community, diversity, environment and product components. At the same time, female academic directors have positive effect on diversity and employee relations but negative effect on environment. Finally, we observe that the effect of academics on CSR is heterogeneous across their academic specialization and experience. In particular, we note that academics with administrative responsibility, business background and industry experience have significant positive effect on firms' CSR performance.

Keywords: Academic Director, Corporate Social Responsibility, Corporate Boards, Academic Directors Characteristics

JEL Classification: G30, G32, M14

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1. Introduction

Recent fraudulent activities and scandals such as Enron, Tyco, Adelphia and WorldCom led U.S. legislators and regulators to tighten laws to improve board efficacy by requiring firms to appoint independent directors. For instance, the Sarbanes-Oxley Act of 2002 (SOX) requires corporate boards to be more independent, more transparent. The rule requires majority of the corporate board members to be independent. As such, the number of independent directors in corporate board is increasing and an increasing number of independent board members are coming from academia. Our sample demonstrates almost 70% of the directors of Standard & Poor's (S&P) 1,500 firms are independent directors and more than 45% of S&P 1,500 firms have at least one independent director from an academic institutions for years 2002 to 2011. Yet, the literature investigating the effect of the presence of academic directors on board on corporate strategies and performance remains limited.

Academic directors bring several unique characteristics to the corporate boards. First, academic directors are experts in their own fields which makes them critical thinkers of specialized problems (Francis et al., 2015). They analyze the situation in scholarly style by viewing it through different angles. Their advising role becomes very important to those firms which have significant portion of knowledge based earnings. Second, since academic directors have relatively higher level of independence in their academic job, they may carry over that character on the corporate boards. Third, since majority of the academic directors come from reputed universities, they bring in a strong academic network with them (White et al., 2013). Using this network, companies may develop their technology, business strategies, brand and a supply of new employees. Alternatively, one can argue that an academic director may not be as effective as a non-academic independent director. First, White et al. (2013) point out academic directors may have biased opinions as they are often appointed by CEOs or chairpersons of the board. CEOs and chairpersons frequently invite academics into corporate board from their alma mater. Therefore, they try to reduce board dissent through choosing from a group of acquaintances (Hwang et al. 2009). Thus they may not be independent decision makers. Second, their lack of business experience may lead them to focus excessively on theoretical solution to a problem which may lack practicality in real world scenarios (Francis et al. 2013). Finally, since many academic directors share the administrative responsibilities in their academic institutions, they may not get sufficient time to contribute to the corporate policies and decision making.

In this study, we are particularly interested in how academics on board influence firms' Corporate Social responsibility (CSR). CSR has drawn significant attention in recent years as investors, governments, and companies alike are taking this issue more positively arguing that the CSR activity is enhancing interest of all stakeholders collectively (Heinkel et al, 2001, Dhaliwal et al., 2011, Goss et al., 2011, Albuquerque et al., 2013, Ioannou et al., 2014).[1] Numerous studies have been conducted from different perspectives to answer whether CSR is value enhancing activity or simply a reflection of firms' agency problems. In a nutshell, value enhancing view says company can increase its valuation by improving CSR performance through brand creation, community engagement, social awareness program, reducing financial distress, increasing stock liquidity and capital constraints (Heinkel et al., 2001, Lee et al., 2009; Goss, 2009; El Ghoul et al., 2011; Dhaliwal et al., 2011; Goss et al., 2011; Hoi et al., 2013; Albuquerque et al., 2013; Deng et al., 2013; Cheng et al., 2014; Ioannou et al., 2014; Watson, 2014; Giulia et al., 2014). In contradiction, agency view proponents argue that while through CSR activities managers often overspend corporate resources and stray away from the ultimate goal of wealth creation for shareholders (Jensen, 2001). Managers may also get personal benefits or satisfaction at the expense of shareholders (Cheng et al., 2014).

In the intersection of the literature that focuses on academic directors and the literature that focuses on corporate social responsibility (CSR), we ask whether the presence of academic directors in corporate boards promote firms' CSR activity. Do female academics play differential role on CSR activity? If they do, which components of CSR score are most affected by the presence of academic director or female academic directors? How do specialization and experience of academic director affect their influence on company's CSR activities?

[1] Definition of CSR appears to map broad range of activities yet with somehow similar focus. To CSR in perspective, Carroll (1998) emphasizes four aspects of corporate citizenship. Based on these four aspects Hill et al. (2007, p. 167) summarize corporate social responsibility as "the economic, legal, moral, and philanthropic actions of firms that influence the quality of life of relevant stakeholders. Each of these constituencies, both individually and collectively, forms opinions about organizations through perceptions of firms' corporate social performance, which is characterized as summary judgments about CSR activities used by investors to make purchase decisions." The World Bank Council for Sustainable Development (WBCSD) argues "Corporate Social Responsibility is the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large." See Corporate Social Responsibility: Meeting changing expectations, p. 3. More recently, Robert et al. (2011) argue CSR helps in "maximizing the creation of shared value for their owner/stakeholders and for their other stakeholders and society at large".

We first investigate the relationship between academic director in the board and firms' CSR activity. We define the "presence" of academic directors by taking *Academic Company Dummy* variable. A company is identified as "Academic Company" if it appoints at least one academic director in its corporate board. Whereas, "percentage" of academic directors is defined as the total number of academic directors divide by the total number of directors in a board. We argue that the presence of academic director in the board promotes CSR activity. Apart from this, we also argue female academics bring diversity to corporate board and may have inclination to increase overall diversity of the firm. Using a sample of 12,484 firm-year observations for years 2002 to 2011 we find that firms with academic directors in corporate boards demonstrate higher CSR performance. We also examine how academic directors impact different CSR components separately. Among 7 different components, we find that the presence of academic directors have positive effect on *Community, Diversity, Environment and Product* components of CSR. Additionally, higher percentage of academic directors increases CSR score in *Employee relations, Human Rights* and *Corporate Governance* criteria. We also find that female academic directors positively affect CSR *Diversity* and *Employee relations* components and inversely affect CSR *Environment* component.

Next we shed light on the impact of characteristics of academic director on a firm's CSR performance. Academic directors often have different skill sets because of their background or job responsibility. Thus, we predict that these heterogeneous skill sets might affect their CSR preference differently. To test this conjecture, we classify academic director into several categories based on their different attributes: *Administrative* – academics with administrative responsibility, e.g., presidents and deans; *STEMM* – academics with a background of science, technology, engineering, mathematics or medicine; *Business* – academics with general business expertise, e.g., professor of business or law school; [2] *Industry Experienced* – academics with significant industry experience, e.g., an adjunct faculty who has many years of industry experience; *Research Focused* – academics with active in research and development in his/her own field of study; *Public Service Affiliated* – academics with public service related job experience, e.g., a professor who serves as a chairman of Federal Reserve Bank. *Democratic/Republican* – academics with affiliation or explicit supports to

[2] We follow the definition of White et al., 2013.

Democratic/Republican Party, e.g., an academics who runs presidential election as Democratic/Republican candidate. We find that academic directors with administrative experience within the university and outside the university in business and industry experience have greater impact on firm's CSR score. Also, firms with academic directors affiliated with Democratic Party demonstrate higher CSR scores compared to those with academic directors affiliated with Republican Party.

To our knowledge, this is the first study to formally connect the relationship of academic director with company's corporate social responsibility using full sets CSR components. However, we noted that in a concurrently conducted research Cho et al. (2015) appear to address somehow similar research question. While the basic findings on the effect of academic director on CSR appear to be similar, our approach is visibly different from their approach. While Chao et al. rely on three components of CSR, we rely on all seven KLD CSR components. Cho et al. (2015) study is limited to basic effect of academic director on CSR based on these three components, whereas we thoroughly examine if the effect of academic director varies by their gender (e.g. female academic directors). We also thoroughly identify several other attributes of academic directors (i.e. *Industry Experienced, Research Focused, Public Service Affiliated, Democratic and Republican*) apart from those Cho et al. (2015) identify (i.e. *Administrative, Specialized* and *Business*). We then assess whether the firms' CSR performance is contingent on academic director attributes. We find that academic directors with administrative skill, business and industry experience and Democratic Party affiliation have significantly positive effect on firms' CSR performance.

The rest of the thesis proceeds as follows: Section 2 explores the relevant literature and research questions development. Sections 3 presents the sample data, test and control variables to examine our research question. Section 4 discusses the results, followed by the concluding remarks in Section 5.

2. Literature Review and Research Questions Development

2.1. Literature Review

In corporate finance literature it is well documented that independent corporate board members can discipline managers' actions and guide a company through monitoring and advising

role (Lincka et al., 2008). Francis et al. (2015) investigate whether an academic director exhibits similar monitoring and advising role that a non-academic independent director does. They find that an academic director can play an important role as a monitor and advisor. Peterson and Philpot (2009) discuss several characteristics that academic directors bring to corporate board after analyzing US Fortune 500 firms. These include demographic diversity and appointment in public affairs committees. They also find that corporations have preference for academics from top US universities. Companies also prefer appointing from local universities which are closer to the companies' headquarter.

In a recent paper, Francis, Hassan and Wu (2015) draw attention to the researchers about academic directors' impact on several aspects of firm performance and corporate governance. After analyzing S&P 1500 companies, they conclude that academic directors have positive relationship with firm performance measured by Tobin's Q and return on assets. They find that firms with academic directors demonstrate better post acquisition performance, higher level of research and development, higher level of information flows into capital market and lower level of CEO entrenchment. In addition, they categorize these academic directors into administrative academic director (directors with administrative experience) and non-administrative academic director and find that non administrative directors are more actively engaged with board decisions.

In response to Francis et al. (2015) study, White, Woidtke, Black and Schweitzer (2013) examine the rationale and the possible channels through which the academic directors get appointed in corporate boards. Consistent with Francis et al. (2015), they find academic directors with background of science, medicine and engineering get appointment for their technical expertise on respective fields while academic directors with business background get appointment for their general expertise about business. Market also treats these appointments differently favoring the former more positively. Academic administrators from well-known universities get appointed because of their "networking effect". Earlier, Anderson, Mansi and Reeb (2003) find that the presence of academic director is inversely associated with cost of debt. They argue that the appointment of academics in audit committee make the committee more independent. This independence of the committee reduces firms' cost of issuing debt. Guner, Malmendier and Tate (2008) identify business professors as one type of financial experts and find these professors can reduce firms' financing constraint.

In contrast with academic director concept, empirical literature is divided into two groups in the issue of corporate social responsibility (CSR). An age old debate that Adolf A. Berle Jr. and E. Merrick Dodd Jr. started in early 1930s has still no definite answer. Both agency view and value enhancing proponents make strong arguments in their favor. Agency view proponents posit managers destroy shareholders wealth by using corporate resources in CSR activity. Friedman (1970) claims that managers do not hold any responsibility towards society. Their only responsibility is to create wealth for the shareholders. This argument is later supported by Jensen (2001) who argues CSR activity can create agency problem by distracting managers from their value maximization focus. Hillman and Keim (2001) using KLD dataset propose that CSR is inversely associated with firm valuation. In a recent paper using the same KLD data, Cheng, Hong and Shue (2014) support that managers may benefit themselves from investing in CSR activity. Using non-KLD dataset, Bauer et al. (2005), Ronneboog et al. (2008) and Lee et al. (2013) determine socially responsible firms suffer from financial market performance.

On the contrary, value enhancing view presumes that CSR positively affects stakeholders by reducing risk, creating brand value, lowering financial distress cost and attracting socially aware investor group. Using KLD dataset, El Ghoul, Guedhami, Kwok and Mishra (2011) find that firms with high CSR activity enjoy significantly lower cost of equity capital. Dhaliwal, Li, Tsang and Yang (2011) identify that lower cost of equity capital can be achieved by voluntary disclosure of corporate social responsivity (CSR) activity. Goss and Roberts (2011) detect that less social responsible firms pay premium in their cost debt. Albuquerque, Durnev and Koshkinen (2013) find that higher CSR active firms exhibit lower systematic risk. Heinkel, Kraus and Zechner (2001) find that CSR attracts socially conscious investors towards firms' securities which creates liquidity or increases demand for firms' securities. Deng, Kang and Low (2013) suggest that firms with high CSR scores tend to realize higher post-merger announcement return and higher long term stock performance. Lee and Faff (2009) and Goss (2009) manifest that CSR activity reduces firm's financial distress while Cheng, Ioannou and Serafeim (2014) show CSR activity alleviates firm's capital constraints . In recent years, the number of socially aware investors has increased substantially (Ioannou et al., 2014). Ioannou and Serafeim (2014) document that investment analysts favoured the agency view of CSR in early 1990s. However, the investment community positively values firms' CSR activities and creates less pessimistic report about these firms for being more socially aware up until year 2007. Ultimately in subsequent years, they provide

optimistic reports about these firms for having high CSR activities. After assessing the relationship between firm's innovation level and CSR activity, Mishra (2015) finds that more innovative firms exhibit higher CSR activity after a successful innovation. This post-innovation CSR activity increases firm's valuation. Firms sometimes engage with CSR activity to get tax advantage. While Hoi, Wu, and Zhang (2013) and Watson (2014) point out firms may use CSR activity to avoid tax burden, and Lanis and Richardson (2015) show that firms with higher level of CSR activity have lower likelihood of indulging in tax avoidance.

While the goal of this study is not to test these two views, we believe that more recent literature concurs that CSR has positive effect on a firm valuation. In short, acknowledging the possibility of existence of agency problem in fewer companies, our general assumption is CSR activity on average enhances stakeholder interests.

2.2. Research Questions

We design our research questions based on the above discussed two ideas. First, Francis, Hasan and Wu (2015) determine that academic directors increase firm value (measured by Tobin's Q) and firm profitability (measured by return on assets). Due to scarcity of literature regarding academic director issue, we have to heavily depend on this paper. Second, several studies (Lee et al., 2009; Goss, 2009; El Ghoul et al., 2011; Dhaliwal et al., 2011; Goss et al., 2011; Hoi et al., 2013; Albuquerque et al., 2013; Deng et al., 2013; Cheng et al., 2014; Ioannou et al., 2014; Watson, 2014; Giulia et al., 2014; Mishra, 2015) show that CSR activity positively affects firms' market and accounting performance.

In summary, we understand from the literature that the presence of academic directors positively affects firms' value, and so does firms' CSR activity. Then one may argue that one of the channels through which academic directors likely enhance firm value is their choice of higher CSR activity. If this is the case, we will observe that firms with academic directors will have superior CSR performance. In other words, we argue that academics in the board may enhance firms' CSR performance. Thus we ask,

RQ 1: Does the presence of academic directors positively affect firms' CSR activity? If so, does it do so by positively (negatively) affecting CSR strengths (concerns)?

To understand the next question, we first discuss the CSR components and how academic directors affect these components. CSR rating is calculated based on seven KLD-CSR qualitative criteria which are *Community*, *Diversity*, *Employee relations*, *Environment*, *Human Rights*, *Product* and *Corporate Governance*. KLD tracks firms' actions during a given year regarding each criterion and assigns a value of 1 in *Strengths* (*Concerns*) if the corporate actions show positive (negative) confirmatory with respect to each criterion. If KLD does not find any corporate action in line with the corresponding criterion, then it assigns a value of 0 to that criterion.

In this section we discuss how academic directors may influence each criterion. First, one of the measures of *Community* criterion is *Support for Education* which is a program of educating staffs and providing job training. Academic directors promote this kind of campaign and it is often seen that academics and academic institutions are the supplier of this service to the companies. Second, even though *Diversity* is not a function of academic director, *Diversity* of corporate board is directly linked up if the board director is a female. Thus, the appointment of a female academic director is expected to increase *Diversity* criterion as she brings more gender heterogeneity into board. Third, as discussed earlier, some academics (mostly administrative and industry experienced) have significant experience of handling employee benefits, compensation and retirement scheme, hiring and lay off policy, workplace improvement, unionization and other administrative tasks. When these academics get appointment in the board they focus on these factors. All of these factors enhance *Employee relations* score. Fourth, being more attached to nature as compare to other company executives, most academics often care about sustainable environment, energy efficiency, recycling, clean energy, pollution control and so on. Thus, they might raise these issues during corporate actions. Fifth, academics sometimes argue in favor of indigenous people and labor rights which might increase *Human Rights* criterion of CSR score. For instance, Academics Without Boarders (AWB) is an organization supported by academicians from different universities which has a mission to improve quality of life throughout the developing world, including improved nutrition, universal primary education, gender equity, health, and the environment. Finally, certain group of academics (mostly STEMM and research focused) frequently express their opinion on firms R&D activity. This might enhance the *Product*

component of CSR score. These are just some of the naive examples of how academic directors may impact CSR scoring, while we do not rule out the possibility that academic directors may enhance CSR via other potential routes. As such, we predict that academic director may promote CSR performance by enhancing community engagement, improving employee benefits, increasing concern regarding environment and higher R&D activity. First we identify the components of CSR score then ask, which particular components of CSR score do academic directors affect significantly? Since each component deals with different aspect of a firm's CSR activity, we expect academic directors may not contribute to each CSR component equally. Accordingly, we ask:

RQ 2: Is the effect of academic directors heterogeneous across CSR components?

Female portray more compassion as compared to male. It can be argued that companies signal other stakeholders that their firms pay attention to women and minorities which gives the firms credibility about their corporate citizen image (Bear, Rahman and Post, 2010). Landry, Bernardi and Bosco (2014) list companies according to different social awareness rating systems. They find that higher percentage of woman directors are associated with more socially aware firms. Mesch, Brown, Moore and Hayat (2011) document that female board members are more likely to focus on charity and they do it by greater amount as compared to male board members even after controlling for empathetic concern factor. Bernardi and Threadgill (2010), Setó-Pamies (2013) and Harjoto, Laksmana and Lee (2014) realize that firms can increase CSR activity by appointing female directors as they bring diversity into the corporate board. This empathetic behavior makes them more caring and more concerned about the social issues around them. Female directors have lesser degree of attendance problem and they are more engaged with corporate decisions (Adams and Ferreira, 2009). New female board member brings new ideas, long-term success, competitive advantage and diverse workforce (Adams and Flynn, 2005). Having female director in board conveys message to its potential recruits as "female friendly employers" and firms gain positive image among its female employees (Terjesen and Searly and Singh, 2009). Companies with higher percentage of female members in board have higher level of charitable donations (Williams, 2003). Therefore, we test whether female academic directors are more socially aware and we formulate our question,

RQ 3: Do female academic directors affect CSR performance differently than male academic directors? If so, do they do so by positively (negatively) affecting CSR strengths (concerns)?

Applying similar logic that we use for all academic directors, we expect that female academic directors affect different CSR components differently. Therefore, we ask:

RQ 4: Is the effect of female academic directors heterogeneous across CSR components?

Finally, since academic directors have different backgrounds and job responsibilities, we posit that this may influence the firms CSR activity differently. Because of the disparity in their training and experience, the focus of academic directors' effect on CSR performance may vary across different group of academics. For instance, while a *STEMM* (academic with medicine, science and technology background) academics might be more focused on firm's R&D activity, a *Business* (academics with business and law background) academics might be more interested in business strategy, employee unionization, compensation package determination and so forth. This difference in background and experience may influence strengths and concerns of each CSR criterion differently. Pattnaik and Pandey (2014) examine "University Spinoffs" which refers commercializing technology based business idea where academic entrepreneurs play the major role in the development of the business. This knowledge based business model is highly effective in high-tech industry where firms' asset base is heavily dependent on its intangible asset component such as patents or human capital. Additionally, examining corporate board's inclination towards political party Goldman, Rocholl and So (2009) examine the market reaction on the appointment of a politically biased individual to corporate board as an independent director. They find the market responds favourably to the appointment of a Republican Party supporting individual to corporate boards. Giulia and Kostovetsky (2014) focus on company's political standing in line with firms CSR activity. They find that Democratic leaning firms are associated with higher CSR activity than Republican leaning firms. These findings suggest that research active academicians are valuable to firms' to broaden their knowledge base and at the same time, political affiliation of directors may affect firm valuation. After careful observation, we anticipate that not all academic directors affect CSR activity similarly. Academic discipline, focus on

academic research, job related training and political affiliation should influence academic directors' decision on CSR activity. Therefore, we question,

> *RQ 5: Does the CSR effect of academic directors vary across their other characteristics (e.g., administrative experience, academic discipline, business and industry experience, research intensity, public service affiliation and political preference)?*

3. Data & Sample

Our sample covers S&P 500, S&P MidCap 400 and S&P SmallCap 600 firms for years 2002 to 2011. The list of board directors are collected from Investor Responsibility Research Center (IRRC) director database. This database includes all the directors' primary employment information, personal attributes such as age and gender, company information and many other relevant information. We identify academic director list from this database. After selecting the list of academic director, we manually collect information about their education level, academic discipline, employment title in academic institutions during the board appointment, industry experience and research activity which match with the appointed company's core business model, political party affiliation and public service job related information. We gather these information from various websites including personal website, university or college websites and various financial and business related websites.[3]

Corporate social responsibility (CSR) data used in this research is from Kinder, Lydenberg and Domini's (KLD) database. We discuss in details about how we calculate CSR score later in this section. We use Compustat and Center for Research in Security Prices (CRSP) database for firms' financial data and listing year information. We also classify firms by Fama-French 48 industry groups. After merging all the datasets we finally obtain 12,484 firm-year observations with 2,053 unique firms for the sample period that ranges for years 2002 to 2011.

[3] List of websites where most of the data regarding academic director attributes are collected from: Bloomberg Business, NNDB, University websites, personal website, SEC filings, Forbes website, LinkedIn, Patent website, People.equilar.com, Morningstar, Zoominfo.com, Wikipedia etc.

3.1. Academic Director:

Francis, Hasan and Wu (2015) first comprehensively classify that academic directors are special types of independent director in corporate board. Based on the existing literature on independent director, they focus on academic director. They identify the companies' motivation for appointing academic directors into corporate board is bringing specialized expertise and diversity into the corporate board. White, Woidtke, Black and Schweitzer (2013) extend this list of motivation of appointing director from academia by adding network effect and reputation building purpose. Many companies desire to hire scholar from top schools and build up their board reputation.

Combining the definition of academic directors from Francis et al. (2015) and White et al. (2013) we categorize academic directors list based on some key characteristics. First, anyone who is involved with university or educational institution is identified as an academic director. This is the definition that IRRC uses when categorizing directors as "Academic". It is not necessary to have a teaching or research position to be an academic director. Even a CEO of an educational service company (such as Educational Testing Service (ETS)) can be considered as an academic director. However, the number of individuals in this category is negligible (less than 1%) as compared to the total sample size of our academic directors list.

We also identify the gender of academic directors. Our sample shows that 1 out of 4 academic directors is a female academic director. Two main variables of focus in our study ~~are~~ "academic director" and "female academic director" are computed in two ways. First, A*cademic Company Dummy* is classified as any company with at least one academic director on its corporate board. Second, *Academic Director Ratio* is the ratio of the number of academic director to the total number of directors. We anticipate the coefficients of these variables to be positive. Similarly, *Female Academic Director Dummy* is a dummy variable if the academic director is also a female and *Female Academic Director Ratio* is the ratio of the number of female academic director to the total number of directors.

Our academic director sample includes university presidents, chancellors, deans of different schools, trustees of universities, tenured track professors, clinical professors, professors in practice, directors of different institutes, adjunct professors, department chairs, provosts, vice presidents and other academics. Second, we classify these academic directors into several

categories based on different attributes. We follow the same definition of Francis et al. (2015) for *Administrative* and then extend our academic directors category by adding *STEMM, Business, Industry Experience, Research Focused, Public Service Affiliated, Democratic* and *Republican* definitions.

[Insert Appendix B1 here]

Administrative academic directors sit into the leadership positions where their main responsibility is to function academic institution or universities smoothly. Titles of these positions include president, chancellor, dean, provost, trustee, CEO, chief investment officer, vice president and similar title. *STEMM* academic directors have a background of either science and engineering or medical science. *Business* academic directors have general expertise on business. These include academics with both business and law background. *Research Focused* academic directors are active in research and consulting, which is in alignment with the core business model of the appointed company. For instance, let's say Goldman Sachs, which is a large investment bank, appoints one academics with background in music and one academic with background in corporate law from a local university into its corporate board. Both of them are active in research in their respective fields. But in this thesis, we identify the former as "Non-Research" and the latter as "Research" academics since the latter's research and knowledge most likely can contribute Goldman's social and business decision. *Industry Experienced* academic directors are individuals who have at least 5 to 10 years of working experience in the same industry that the appointing company operates. For example, let's say an Air Force General is appointed as university president after his service in the air force. S/he has substantial experience about aviation system, military strategy, defence and other sophisticated issues. S/he then is invited as a board member into Boeing which supplies military fighter plane for US army. Since his/her experience is aligned with Boeing's business model, we classify this academician as industry experienced academic director. *Public Service Affiliated* academic directors have served as government officials for substantial period of time during their career. This might be serving as a governor of a state, White House official for a term, public attorney position, high officials of judicial system, military personnel or similar public service related occupation. *Democratic* academic directors are those who explicitly express their support to Democratic Party and participate Democratic presidential campaigns or other elections. In contrast, *Republican* academic directors are just the opposite. For instance, Larry Summer who was the president of Harvard University identifies

himself as a Democratic while Glenn Hubbard who is the current dean of Columbia Business School recognizes himself as a Republican. Our classification of academic director is not mutually exclusive which implies that an academic director can fall into several categories at a time.

[Insert Appendix B2 and B3 here]

Around 44% firms in our S&P 1,500 sample have at least one academic director in their corporate board. More than 3% firms have multiple academics in board. While the average board size in our sample of firm-years is about 9 directors, independence ratio of these boards is approximately 70%.

[Insert Appendix B4 here]

About 55% of academic directors have at least one administrative role. Majority of these groups hold the title of either "President" or "Dean". University presidents, chancellors or deans have substantial amount of leadership experience and qualification. They have a strong network with industry and government level. Appointing a director from these pool of individuals gives companies access to their networks. Local university graduates can also be a good source of fresh employees for companies which contributes to the regional economy (Bramwell et al., 2008). Invitation of a top official from university will enhance the supply of quality graduates. In contrast, about 34% academic directors do not have any significant administrative responsibility. Larger part of the responsibilities of these group of academics are teaching, researching, consulting, textbook and case study writing.

[Insert Appendix B5 here]

In the academic director sample, the majority of the academics (around 40%) are from business background. Most of the top universities in the list have reputed business schools. Professors with business background often work as consultant with companies to develop business strategy for company expansion, improve operational efficiency to minimize cost, educate staffs to be more productive and so on. These professors are active in research, write textbooks and case studies, comment on business events, offer consulting, deliver public speeches, train professionals and the like. Deans of business school often come from the financial and business industry with a significant years of experience. The motivation behind appointing these deans into corporate board might be to build relationship with business schools. However, White et al. (2013) find that appointing this academics with business background does not make a big

change in capital market perspective. In other words, investors do not react significantly when a business academics comes into board.

White et al. (2013) suggest that academics with science, medical and engineering background are most likely invited into corporate board because of their specialized expertise. They also argue that market favourably responds to the appointment news for these cases supporting the specialized expertise hypothesis. Some companies also delegate their research to academicians. Thus, educational institutions are great places to develop companies' technologies and growth strategies. Some academician in science commercialize their research through forming business entity supporting University Spinoff hypothesis. The number of such cases is very limited in our sample and confined within certain industries like information technology, bio-technology or similar high tech industry. For example, Phillip Sharp who received Nobel Prize for Medicine in 1993 was a faculty member at MIT when he founded Biogen in 1978.

In many cases politically affiliated individuals get linked with academic institutions. In our sample, we find a number of governors from different states take university president or adjunct professor position after they retire from their government job related duty. In addition, professors sometime actively teach and comment on political events. We classify their background as political which comprises of around 5% in our sample.

Data shows academic directors are mostly appointed from reputed universities.[4] Our sample is consistent with White et al (2013). Top universities such as Harvard, Stanford, MIT, Columbia, New York etc. provide the maximum number of academic directors. This is assumable as these universities have relatively better research facilities, employ top scholars and have strong industry relationship. Many industries are actually build up around these reputed universities. For instance, Stanford University is located close to Silicon Valley and a significant number of faculty members from this university sit on the board of Silicon Valley based companies.

We find academic directors attached with neighbouring universities are often invited by companies. Almost 50% of the academic directors are chosen from a university which is within 200 kilometers from the companies' headquarter. This implies that the majority of the companies prefer to select academics from local universities. However, companies may go far for academics who are really qualified for that corporate board position. This statistical finding is consistent with Francis et al. (2015) and White et al. (2013). Also, 73% of the academics directors have doctorate

[4] Not shown here.

level of education which includes PhD, JD and MD. Around 18% academics have graduate level education such as MBA, MA, MSc or MPhil. The majority of the companies within our sample (60% companies) are incorporated in Delaware.

3.2. Corporate Social Responsibility:

Starting from 1991 KLD Research & Analytics, Inc. provides an annual update of the environmental, social and governance performance of companies. KLD increases its coverage from 1,100 publicly traded firms to 3,000 from the year 2003. Analyzing firms' actions KLD identifies the strengths and concerns of a firm using 7 different *Qualitative Screens*. These are *Community, Corporate Governance, Diversity, Employee relations, Environment, Human Rights* and *Product*. For strengths (concerns) in each criterion, KLD assigns a value of 1 if the firm shows positive (negative) outlook regarding that criterion, otherwise KLD assigns 0. Adding all the strengths of each criterion KLD generates total strength value for a firm (*CSR_STR_N*). Similarly, the sum of all the concerns from each criterion gives total concern value for a firm (*CSR_CON_N*). Netting, *CSR_STR_N* with *CSR_CON_N*, we obtain a net CSR score (*CSR_N*).[5] We exclude *Corporate Governance* criterion from net CSR score calculation as CSR does not take into account conflicts of interest between insiders and shareholders (El Ghoul et al., 2011). In other words, *Corporate Governance* focuses on investors of the firm and their wealth maximization by reducing agency problems. However, our goal is to measure CSR towards non-investors (society at large; other than investors) of the firm. Nevertheless, our inference remains the same when we include *Corporate Governance* to our CSR definition which is discussed in the robustness section.

KLD also collects 6 *Exclusionary* screens which are basically controversial business issues. These kind of businesses are related to *Alcohol, Gambling, Tobacco, Firearms, Military* and *Nuclear Power*. KLD only issues a concern value for these criteria as these do not have any positive social impact (no strength value). We exclude this controversial business rating from our analysis as this does not fit into our research purpose.

3.3. Control Variables:

We closely follow the related literature to select key determinants of CSR activity. All control variables are measured one period ahead of firms' CSR activity. We control our result for

[5] See Appendix A for exact definition.

industry effect using Fama-French 48 industry classification and time effect. All the dependent variables are measured in T+1 period while the independent variables are measured in T period.

McWilliam and Seigel (2001), Padgett and Galan (2010) and Mishra (2015) find that firm's R&D activities and innovation level have positive association with CSR activity. Thus, we include firm's *R&D Intensity* as a control variable. We scale *R&D Intensity* by dividing R&D expense by firm's total assets. We expect that more innovative firms (proxy by R&D intensity) will be engaged with more CRS activity.

Firm Size is one of the important determinants of CSR activity. Larger firms are normally followed by greater number of analysts (El Ghoul el al., 2011) and have more resources to engage in CSR activity (McWilliam and Seigel, 2001 and Ioannou and Serfeim, 2012). Natural logarithm of firm's total book value asset is a well-accepted proxy of firm size in literature. We expect *Firm Size* to load with a positive sign. In addition, we predict more mature firms will become more socially aware over time. Following Mishra (2015), we assume *Firm Age* to have a positive effect on CSR score. We count the number of years since the firm is included in CRSP database to estimate for *Firm Age*.

Profitability is another important factor as more profitable firms will engage in more CSR score. Campbell (2007) and Ioannou and Serafeim (2012) argue that profitable firms measured by return on asset (*ROA*) have positive impact on CSR activity. Thus we control for ROA and expect to have positive impact on CSR activity. We calculate *ROA* by dividing net income by total assets. Capital expenditure (*CAPEX)* is assumed to be a salient factor for firm's future success. Mishra (2015) argues that *CAPEX* is positively correlated with firms' innovation level and therefore it has positive affect on CSR score. Thus we expect *CAPEX* to have positive relationship with CSR activity. We standardize *CAPEX* by dividing firm's capital expenditure by total assets. Literature (e.g., Cheng et al., 2014) suggests that firms with higher level of leverage would choose less CSR activity. We compute leverage by dividing total debt by total assets and we expect the sign to be negative. We include *Advertising Intensity* as a control variable measured by the ratio of advertising expenditure to total assets. Sarvaes and Tamayo (2013) observe corporate social responsibility to be a value enhancing mechanism by creating customer awareness. Thus we expect the sign of this variable to be positive. We incorporate Tobin's Q in our analysis to account for the effect of valuation.

In summary, it is expected that the firms with higher percentage of academic directors, higher percentage of female academic directors, higher *Tobin's Q*, lager and more matured, more profitable, lower leverage, more innovative, more advertised companies to be related with higher level of CSR activity. We winsorize all Compustat variables at the 1 and 99 percentiles to address for outlier effect.

4. Results

[Insert Table 1 here]

Univariate tests:

[Insert Table 2 here]

We compare CSR score between academic company and non-academic company. While the mean of CSR score of the academic companies is positive, the mean of that for the non-academic companies is negative. The difference of the mean of CSR score of these two groups is significant at 1% level which suggests strong evidence in favor of positive role of academic director in firm's CSR activity.

[Insert Table 3 here]

From Table 3 we do not find significant strong correlation among the control variables and test variables.[6]

4.1. The impact of academic directors and female academic directors on board on firm's CSR activity.

[Insert Table 4 here]

Table 4 describes the relationship between academic directors, female academic directors and firms' corporate social responsibility performance using linear regressions with robust standard errors. We include industry and time dummy to control their effect.

Models 1 & 2: $CSR\_STR\_N_{T+1} = \alpha + \beta\ Test\ variable_T + \theta\ Control\ variables_T + Industry\ \&\ Time\ Dummy + \varepsilon_T$

[6] VIF (variance inflation factor) test supports that there is no significant multicollinearity.

Our test variables in the above equitation are *Academic Director Dummy*, *Academic Director Ratio, Female Academic Director Dummy*, *Female Academic Director Ratio, Democratic* and *Republican*. Except Republican variable, all the coefficients of these other variables are positive and significant. In model 1, the magnitude of the coefficient for *Academic Company Dummy* is about 0.122 indicating that CSR strengths score is about 0.122 higher in the subsequent year for firms with academic directors than firm without academic directors holding all others constant. The magnitude of the coefficient for *Female Academic Director Dummy* is about 0.360 which is significant at 1% level indicating that CSR score is about 0.360 higher in the subsequent year for firms with a female academic director than firm without a female academic director. In model 2, the coefficient for *Academic Director Ratio* is 1.031 which implies that one unit increase in *Academic Director Ratio* causes an increase of 1.031-unit of firm's CSR strengths score in subsequent period. The coefficient is significant in 1% level. The coefficient for *Female Academic Director Ratio* is about 2.417 which is significant at 1% level indicating that one unit increase in *Female Academic Director Ratio* causes an increase of 2.417-unit of firm's CSR strengths score in subsequent period. This suggests that the relative number of academic directors also matters to firms' CSR strengths. As compared to *Republican* academic directors, *Democratic* academic directors enhance CSR strengths. In models 1 and 2, the coefficient of *Democratic* academic director dummy is positive and significant at 1% level. Thus we can argue that *Democratic* academics on average increase CSR strengths. These results supports our conjecture that the presence of academic director and female academic director in corporate board increases firms' CSR strengths in subsequent year.

Models 3 & 4: $CSR\_CON\_N_{T+1} = \alpha + \beta\ Test\ variable_T + \theta\ Control\ variables_T + Industry\ \&\ Time\ Dummy + \varepsilon_T$

Models 3 and 4 test with the same specification as models 1 and 2 except for the fact that now our dependent variable is *CSR_CON_N*. In model 3, the magnitude of the coefficient for *Academic Company Dummy* is about -0.101 which is significant at 1% level indicating that CSR concerns score is on average about 0.101 lower for firms with academic directors than firm without academic directors. Our other test variables are not statistically significant in this model. In model 4, the coefficient for *Academic Director Ratio* is -0.782 which implies that one unit increase in *Academic Director Ratio* causes a decrease of 0.782-unit of firm's CSR concerns score

in subsequent period. The coefficient is significant in 1% level. Thus the presence of *Female Academic Director, Female Academic Director Ratio, Democratic or Republican* does not influence the CSR concerns score. The result supports our research question 1 that the presence of academic director in corporate board might reduce firms' CSR concerns in subsequent year.

Models 5 & 6: $CSR\_N_{T+1} = \alpha + \beta\ Test\ variable_T + \theta\ Control\ variables_T + Industry\ \&\ Time\ Dummy + \varepsilon_T$

In models 5 and 6, we combine CSR strengths and CSR concerns. We calculate the net overall CSR score by subtracting CSR concerns from CSR strengths for each year. The magnitude and significance of the coefficients of these two models are similar to the coefficients of models 1 and 2. In model 5, the magnitude of the coefficient for *Academic Company Dummy* is about 0.223 which is higher than the magnitude of this variable from model 1. This strengthens the evidence in favor of our research question. The magnitude of the coefficient for *Female Academic Director Dummy* is about 0.322 which is positive and significant at 1% level. This supports our research question 3. In model 6, the coefficient for *Female Academic Director Ratio* is about 2.445 which is also significant and positive. Similar to the models 1 and 2, *Democratic* academic directors enhance net overall CSR score while *Republican* academic directors do not. The coefficient of *Democratic* academic director is positive and significant at 1% level as before. Above result supports our prediction that the presence of academic director and female academic director in corporate board might increase firms' net overall CSR score in subsequent year.

As far as our control variables are concerned in models 1, 2, 5 and 6, we find *Tobin's Q*, *R&D Intensity*, *Firm Size*, *Firm age*, *ROA*, *CAPEX* and *Advertising Intensity* have significant and positive effect on following year's CSR strengths and net overall CSR activity. We also obtain negative relationship for *Leverage* with CSR strength in models 1 and 2. In models 3 and 4, the coefficients either switch their sign or get lesser magnitude. *Tobin's Q*, *Firm Size* and *Firm age* are positively related to the dependent variables but their magnitudes are lower compared to the coefficients of models 1 and 2. *ROA* and *CAPEX* are inversely related to CSR concerns suggesting that more profitable and innovating firms have lesser CSR problems. *R&D Intensity* and *Advertising Intensity* do not have any impact on CSR concern. *Leverage* is negatively related to CSR concerns and the magnitude becomes lesser as compared to models 1 and 2 which suggest that higher level of debt negatively affect CSR concerns in lower scale.

Thus the above discussion supports our research question 1 and 3. In summary, based on evidence we can argue academic directors and female academic directors have positive impact on both CSR strengths (*CSR_STR_N*) and net overall CSR score (*CSR_N*) but the presence of academic directors on board have negative impact on CSR concerns (*CSR_CON_N*), while female academic directors do not have any impact. However, our result regarding political affiliation (whether the academic is democrat or republican) may be biased as the sample only includes 23% (1,388 director-year observations out of 6,079 academic director-year observations) academic directors' political preference information. Moreover, we could only manage to collect information on those academics who explicitly express their political opinion or engage in political activity.

4.2. *Is the effect of academic directors or female academic directors heterogeneous across CSR components?*

We further test the relationship of academic director, female academic director and academic directors' political affiliation with each component of CSR score. These components are *Community*, *Diversity, Employee relations, Environment, Human Rights, Products* and *Corporate Governance.*

$$CSR\_COMPONENTS_{T+1} = \alpha + \beta\ Test\ variable_T + \theta\ Control\ variables_T + Industry\ \&\ Time\ Dummy + \varepsilon_T$$

First we examine each criterion by taking the CSR strengths (i.e. for example, *COM_STR_N* for CSR strengths for Community criterion) and CSR concerns (i.e. *COM_CON_N* for CSR concerns for Community criterion) separately as the dependent variable. Then we test overall net CSR score for each criterion (*COM_N* for net overall CSR score for Community criterion). The test variables and other control variables for these models are the same as Table 4. We examine each criterion following the same procedure.

[Insert Table 5a here]

Panel A of Table 5a shows that academic directors and female academic director do not have any influence on CSR Community strengths (models 1 and 2). However, both *Democratic* and *Republican* academic directors have positive and significant influence on CSR Community strengths. In models 3 and 4, academic directors negatively impact CSR Community concerns which indicates that academics are concerned about the community problems and they try to

reduce these issues. Surprisingly, female academic directors enhance CSR Community concerns. Academic directors' political affiliation do not play any role in CSR Community concerns. In models 5 and 6, the net overall CSR Community score is only influenced by the presence of academic director. Female academic director do not enhance net overall CSR Community score. In the overall CSR regression, only *Democratic* academic directors enhance net overall CSR score.

When a female academic director comes to a board, it directly increases the *Diversity* strengths or vice versa. In panel B from models 1 to 4, female academic directors positively affect CSR Diversity strengths and negatively affect CSR Diversity concerns. The magnitude is economically meaningful and significant at 1% level. The result is expected as the *Diversity* is a function of female director. However, academic directors inversely affect CSR Diversity concerns (models 3 and 4). In models 5 and 6, we find that the presence of academic director increases net overall CSR Diversity score. Democratic Academic directors influence both CSR Diversity strengths and net overall CSR Diversity score. Republican academic directors do not have any impact on CSR Diversity criterion.

[Insert Table 5b here]

In panel A of Table 5b, academic directors have positive influence on CSR Employee Relations strengths (models 1 and 2). The coefficients of *Academic Director Company Dummy* and *Academic Director Ratio* are positive and significant at 1% level. This is logical since a large number of academics in our sample are administrative academic directors and they often work on employee benefits, compensation package, no-layoff policy etcetera. Thus they tend to focus on these issues during their directorship in a company. However, there is no evidence that these academics reduces CSR Employee Relations concerns as the coefficient of *Academic Director Company Dummy* and *Academic Director Ratio* are insignificant (models 3 and 4). In the net overall CSR Employee Relations regressions (models 5 and 6), the result holds that higher percentage of academics (model 6 only) increases Employee Relations score. On the other hand, *Female Academic Director Dummy* and *Female Academic Director Ratio* are significant and negative in models 3 and 4. This suggests female academic directors focus more on CSR Employee Relations concerns and they try to mitigate the problems related to employee. In models 5 and 6, *Female* academics positively affect net overall CSR Employee Relations score.

Interestingly, *Democratic* academic directors enhance CSR Employee Relations concerns (models 3 and 4). In models 5 and 6, we find *Democratic* academic directors inversely affect the net overall CSR Employee Relations score.

In panel B of Table 5b we explore the *Environment* criterion. We find no impact of the presence of academic director or female academic director on CSR Environment strengths (models 1 and 2). But in models 3 and 4, we find that the presence of academic director reduces CSR Environment concerns. We find that female academic directors boost CSR Environment concerns. *Democratic* academic directors enhance CSR Environment score, *Republican* academic directors do the opposite. This is what is expected as Democrats more often focus on environmental issues than the Republicans do (models 1 to 6).[7]

[Insert Table 5c here]

In panel A of Table 5c, we find no significant effect of academic directors or female academic director on *Human Rights* criterion (models 1 to 6). The political affiliation also does not play any role on *Human Rights* criterion either. This can be justified as most of the scoring criteria of *Human Rights* are related to international events and most often these academics have very little control over these issues.

In panel B of Table 5c, we can draw a concrete answer whether *Academic* directors enhance CSR strengths or CSR concerns (models 1 to 4). However, in net overall CSR Product regression (models 5 and 6), academic directors enhance net overall CSR score. Since we find no consistent result in this case, we are not sure which one (strengths or concerns) is the reason for the significance of this net overall CSR score. In contrast, female academic directors increase both CSR Product strengths and CSR Product concerns (models 1 to 4). But in the overall net CSR Product score, *Female* academic directors are not effective as the coefficients of *Female Academic Director Dummy* and *Female Academic Director Ratio* are not significant (models 5 and 6). *Democratic* academic directors inversely impact CSR Product strengths and net overall CSR score (models 1 to 6). *Republican* academic directors do not have any impact (models 1 to 6).

[7] "Many More Democrats Than Republicans Say Protecting Environment a Top Priority" *Pew Research Center*, February 5, 2013.

[Insert Table 5d here]

In panel A of Table 5d we find neither academic director nor female academic director is significant (models 1 and 2). This indicates that they do not affect corporate governance within a company. However, academic directors reduce corporate governance concerns, while female academic directors have no significant effect on it (models 3 and 4). The coefficient of *Academic Director* of these regressions are negative and significant at 1% which shows that academics often put emphasis to overcome corporate governance challenges. *Democratic* academic directors boost CSR Corporate Governance strengths and CSR Corporate Governance concerns (models 1 to 4). But overall, they do not have significant impact (models 5 and 6). *Republican* academic directors do not have a significant impact on *Corporate Governance* (models 1 to 6).

To sum up, we test each criterion separately with respect to the presence of academic directors, female academic directors and their political affiliation. We find that academic directors increase *Employee Relations* strengths and decrease *Community*, *Diversity*, *Environment & Corporate Governance* concerns. Conversely, female academic director reduce *Employee Relations* concerns and increase *Environment* concerns. Decisively, female academic directors increase *Diversity* strengths and reduce *Diversity* concerns. Finally, *Democratic* academic directors enhance *Community*, *Diversity & Environment* strengths and increase *Employee Relations & Product* concerns. In contrast, *Republican* academic directors increase *Environment* concerns. Therefore, we find evidence that academic directors, female academic directors and their political affiliation affect each CSR components differently which supports our research questions 2 and 4.

4.3. Does the CSR effect of academic directors vary across their other characteristics?

In this section, we categorize academic directors based on their experience and expertise. Based on different attributes we create dummy variables for each category and these categories are not mutually exclusive. This entails one particular academic director can fall into different categories.

[Insert Table 6a here]

In panel A we first define academic directors as either administrative or non-administrative. In model 1, the coefficient *Administrative* is positive and significant. The result

seems logical as administrative academic directors usually focus on employee benefits, working environment, educational support, unionization, compensation package and similar matters as they often deal with these matters in academic institutions. All these matters affect CSR strengths. In model 2, the coefficient *Administrative* is negative and significant. This indicates administrative academic directors also reduce CSR concerns score. Overall, they generally increase CSR net score when they get appointed to the corporate board (model 3).

Next, in panel B we classify academic director as either specialized or non-specialized. We define specialized as anyone with a background in Science (S), Technology (T), Engineering (E), Mathematics (M) and Medicine (M) – in short STEMM. In model 1, *STEMM* academic directors positively affect CSR strengths. But they do not have significant effect on CSR concerns (model 2). Overall, the effect of *STEMM* academic directors on net overall CSR score (model 3) is insignificant.

Then, in panel C we test business academics and non-business academics. A significant number of academic directors are from business background. They often have significant industry experience (50% correlation between *Business* & *Industry Experienced*). When these academics step into board they mostly focus on profitability, compensation package, employee retirement benefits, legal concerns, safer workplace and other factors. CSR score tracks these matters. Thus, we expect *Business* academics may improve CSR scores through these mechanisms. The result shows that they have no significant effect on CSR strengths (model 1) but significant negative effect on CSR concerns (model 2). Overall, *Business* academic directors have positive influence on net overall CSR score.

Similarly in panel D, *Industry Experienced* academics have significant knowledge about the appointed company. They work for strategy development, sustainable growth, tax concerns, board structure development, employee involvement and familiar issues. We expect that these academics might affect CSR score through these actions. We find positive significant relationship of the presence of industry experienced academics with CSR strengths. But they do not significantly affect CSR concerns. Overall, *Business* academic directors increase net overall CSR score.

Now in panel E, we explore the issue of research academics and non-research academics. Our prediction is that the research focused academics might impact companies' R&D activities.

Unfortunately, we find no significant impact of *Research Focused* academics on either CSR strengths or CSR concerns or net overall CSR score. In panel F, we focus on public service affiliated academics. We find *Public Service Affiliated* academic directors have a positive and significant influence on both CSR strengths, CSR concerns and net overall CSR score.

[Insert Table 6b here]

Finally, we put all our academic director categories to run horse race regressions. Since we find high significant positive relationship between *Business* and *Industry Experienced* academics (more than 50% correlation)[8], we separately examine these two variables to avoid possible multi-collinearity problem. In models 1 to 3, we find *Administrative* and *Business* academics have positive significant relationship with net overall CSR scores. From models 4 to 6, we find *Administrative, and Industry Experienced* academics have positive significant relationship with net overall CSR scores. In combination to these models, we argue that the appointment of *Administrative, Business* or *Industry Experienced* academics might affect net overall CSR scores in the subsequent year.

In short, we find evidence in support of the research question 5 where we predict academics with heterogeneous educational background and job experience will have different level of effect on CSR activity. In particular we find *Administrative, Business* and *Industry Experienced a*cademics have greater influence on CSR score.

5. Robustness

5.1. Endogeneity issue

One might argue that more ethical academicians may not choose socially irresponsible firms as it contradicts their ideology. This possibility of not involving with socially irresponsible firms may bias our results. To address this causality issue we define our dependent variable in T+1 period, while the independent variables are measured in T period. This lead-lag relation might address reverse causality issue to some extent. Due to data limitation, we are not able to use instrumental variable regressions as we could not line up an instrument that we could comfortably consider exogenous in this case.

[8] Not shown here.

5.2. Financial & Utility firms

KLD rates company's actions beyond the regulatory rules and requirement. Thus, these actions are voluntarily taken by the companies and KLD only takes these actions into consideration for its rating purposes. Therefore, the rating should be unaffected by particular industry effect. However, to be consistent with the literature, in this section we run Table 4 again after excluding financial and utility firms. In these tests our general conclusion remains the same.[9] The sign and significance of the regression coefficients for our key test variables do not change very much.

5.3. Corporate Governance

Finally, we include *Corporate Governance* screen into the calculation of net overall CSR score (CSR_N), CSR strengths (CSR_STR_N) and CSR concerns (CSR_CON_N). We create modified version of these variables (Mod-CSR_N for net overall Modified CSR score, Mod-CSR_STR_N for Modified CSR strengths and Mod-CSR_CON_N for Modified CSR concerns). Using these new modified variable we run Table 4 and find the similar result as before.[10]

5.4. Sin industry

In the main results we do not exclude the sin industries from our analysis. In the KLD dataset, sin industry is rated as *Exclusionary Screens* which includes 6 different industries. These industries are *Alcohol, Gambling, Firearms, Military, Nuclear Power* and *Tobacco.* KLD only assigns concerns value to these companies. Following the procedure of Honga et al. (2012) we identify these firms in sin industry by using a combination of SIC code and Fama-French 48 industry code. Alcohol and Tobacco industries are categorized in Fama-French industry code 4 and 5 respectively. Fama-French industry code 26 includes Firearms and Military screens. SIC code 0800-0899, 3760-3769, 3795 and 3480-3489 includes the Mining and Natural resource companies. 26 companies out of 2,053 sample companies are within sin industries which account for 173 director-year observations. We run our Table 4 excluding all the sin firms. Our results remain almost similar to those we find in previous tests.[11]

[9] Not shown here.
[10] Not shown here.
[11] Not shown here.

5.5. Data Issue

Our dataset has relatively lower number of academic director-year observations in the year of 2002 as compared to other years' observations. Thus, we repeat our main analysis dropping the observations of year 2002. The general result holds even after the exclusion of these observations.[12]

6. Conclusion

Previous literature identifies academic directors as a special class of independent directors who bring in their unique experience and expertise when they join corporate boards. On the other hand, recent literature finds corporate social responsibility (CSR) reduces firm's idiosyncratic risk, creates brand value, strengthens corporate citizenship image, increases social awareness, reduces cost of capital and increases the firm's value. In intersection of these two strands of literature, we ask whether the presence of academic director or female academic director in corporate board promotes CSR performance. After examining 12,484 firm-year observations of S&P 1500 firms for years 2002 to 2011 , we find both academic directors and female academic directors have positive effect on firm CSR activity. This suggests that the appointment of academic directors and female academic directors can be effective mechanism to increase firm's CSR activity. Next, we shed light on the possible components through which academic directors and female academic directors can enhance CSR performance. Among 7 components of CSR ratings which are *Community, Diversity, Employee Relations, Environment, Human Rights, Product* and *Corporate Governance*, we find *Community, Diversity*, *Environment* and *Product* components of CSR respond positively to the presence of academics into corporate board. We also find CSR score regarding *Employee Relations, Human Rights* and *Corporate Governance* criteria along with *Community, Diversity* and *Environment* criteria is increasing in the proportions of academics in board. In contrast, female academic directors positively affect *Diversity* and *Employee Relations* criteria. Surprisingly they negatively impact *Environment* criterion. Democratic academic directors are in general more concerned about *Environmental* issues than

[12] Not shown here.

their Republican counterparts. Finally, we find *Administrative*, *Business* and *Industry Experienced* academic directors have the most positive impact on the firm's CSR activity.

Our findings contribute to the literature by adding a new dimension to academic director and corporate social responsibility literature. Considering the percentage of firms that appoint directors from academia, we believe that the appointment of academic directors is a new possible mechanism for companies to be more socially active. We document that the presence of both academic directors and female academic directors enhance CSR performance. We also identify that both academic directors and female academic directors affect each CSR component differently. Finally, such directors' academic background and job experience plays a vital role when academic directors take their CSR decisions.

7. Limitation

IRRC database has several limitations including non-consistent data collection method before and after the year 2006. Some of the limitations are raised by White et al. (2013). However, we try our level best to clean the dataset as much as possible. First, due to lack of one unique identifiable variable we have to first merge our IRRC dataset using ticker. Then after manually matching CUSIP, company name and GVKEY we merge IRRC dataset with KLD, COMPUSTAT and CRSP dataset. Second, same person is categorized differently in different period in IRRC database. For instance, same person 'X' is recorded as "academic" in year 2003 and as "consultant" in year 2004. We consider that person as "academic" throughout his/her directorship tenure.

We collect academic directors' attributes from different websites which may have incorrect or biased information. It particular when classifying research focused and industry experienced academic director we use our judgement. Since non-political person's political opinion is hard to identify we rely upon websites information. In particular, if a person is affiliated with a particular party's political campaign or appointed by any particular party we classify him/her to that respective party. All of these might bias our results even though we try our best to be consistent.

KLD dataset has been criticised for not utilizing all available public information (Aaron et al. 2009). In addition, KLD dataset has limited coverage during the 1990s and increase its

coverage after year 2002. However, since the sample period is from 2002 to 2011 our results are less likely to be affected by these biases.

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Appendix A
A.1: Variable Construction

Variable	Definition	Source
Panel A. Dependent variables		
COM_STR_N	COM_ STR_N equals the number of strengths in the KLD *Community* qualitative screen	KLD CSR
DIV_ STR_N	DIV_ STR_N equals the number of strengths in the KLD *Diversity* qualitative screen	KLD CSR
EMP_ STR_N	EMP_ STR_N equals the number of strengths in the KLD *Employee relations* qualitative screen	KLD CSR
ENV_ STR_N	ENV_ STR_N equals the number of strengths in the KLD *Environment* qualitative screen	KLD CSR
HUM_ STR_N	HUM_ STR_N equals the number of strengths in the KLD *Human Rights* qualitative screen	KLD CSR
PRO_ STR_N	PRO_ STR_N equals the number of strengths in the KLD *Product* qualitative screen	KLD CSR
CSR_STR_N	CSR_STR_N score equals the sum of all the strengths of the Community (COM_STR_N), Diversity (DIV_STR_N), Employee relations (EMP_STR_N), Environment (ENV_STR_N), Human Rights (HUM_STR_N), and Product (PRO_STR_N) qualitative screens scores	KLD CSR
COM_CON_N	COM_ STR_N equals the number of concerns in the KLD *Community* qualitative screen	KLD CSR
DIV_CON_N	DIV_ STR_N equals the number of concerns in the KLD *Diversity* qualitative screen	KLD CSR
EMP_CON_N	EMP_ STR_N equals the number of concerns in the KLD *Employee relations* qualitative screen	KLD CSR
ENV_CON_N	ENV_ STR_N equals the number of concerns in the KLD *Environment* qualitative screen	KLD CSR
HUM_CON_N	HUM_ STR_N equals the number of concerns in the KLD *Human Rights* qualitative screen	KLD CSR

PRO_CON_N	PRO_ STR_N equals the number of concerns in the KLD *Product* qualitative screen	KLD CSR
CSR_CON_N	CSR_CON_N score equals the sum of all the concerns of the Community (COM_CON_N), Diversity (DIV_CON_N), Employee relations (EMP_CON_N), Environment (ENV_CON_N), Human Rights (HUM_CON_N), and Product (PRO_CON_N) qualitative screens scores	KLD CSR
COM_N	COM_N equals the number of strengths (COM_STR_N) minus the number of concerns (COM_CON_N) in the KLD *Community* qualitative screen	KLD CSR
DIV_N	DIV_N equals the number of strengths (DIV _STR_N) minus the number of concerns (DIV _CON_N) in the KLD *Diversity* qualitative screen	KLD CSR
EMP_N	EMP_N equals the number of strengths (EMP_STR_N) minus the number of concerns (EMP_CON_N) in the KLD *Employee relations* qualitative screen	KLD CSR
ENV_N	ENV_N equals the number of strengths (ENV_STR_N) minus the number of concerns (ENV_CON_N) in the KLD *Environment* qualitative screen	KLD CSR
HUM_N	HUM_N equals the number of strengths (HUM_STR_N) minus the number of concerns (HUM_CON_N) in the KLD *Human Rights* qualitative screen	KLD CSR
PRO_N	PRO_N equals the number of strengths (PRO_STR_N) minus the number of concerns (PRO_CON_N) in the KLD *Product* qualitative screen	KLD CSR
CSR_N	CSR_N score equals the sum of the Community (COM_N), Diversity (DIV_N), Employee relations (EMP_N), Environment (ENV_N), Human Rights (HUM_N), and Product (PRO_N) qualitative screens scores	KLD CSR/Author's Computation

Panel B. Control Variables

Academic Company Dummy	Company with at least 1 Academic Director in the corporate board	IRRC
Academic Director Ratio	Percentage of Academic Director appointed in the corporate board	IRRC/Author's Computation
Female Academic Director Dummy	Dummy 1 for female academic director if the academics is also an female; 0 otherwise	IRRC
Female Academic Director Ratio	Percentage of Female Academic Director appointed in the corporate board	IRRC/Author's Computation

Tobin's Q	Firm's market value to book value ratio. Market value is calculated as the book value of asset minus the book value of equity plus the market value of equity. Book value is the total balance sheet value of asset.	Compustat/Author's Computation
R&D Intensity	R&D expenditure divided by total assets	Compustat/Author's Computation
Firm Size	Log of firm's total assets	Compustat/Author's Computation
Firm Age	Number of years since the firm first appeared in CRSP database	CRSP/Author's Computation
Return of Assets (ROA)	Net income divided by total assets	Compustat/Author's Computation
CAPEX	Capital expenditure divided by total assets	Compustat/Author's Computation
Leverage	The book value of short-term debt plus the book value of long-term debt divided by total assets	Compustat/Author's Computation
Advertising Intensity	Advertising expenditure divided by total assets	Compustat/Author's Computation
Panel C. Academic Director Characteristics		
Administrative Academic Director	Academic director with an administrative role such as President, Chancellor, Dean, Provost, Trustee, Chief Investment Officer, Vice President etc.	Author's Computation
STEMM Academic Director	Academic director with a background of science, technology, engineering, mathematics or medicine.	Author's Computation
Business Academic Director	Academic director with a background of business and law.	Author's Computation
Research Focused Academic Director	Academic director active in research work in his/her own field which matches the business of model of appointed company.	Author's Computation
Industry Experienced Academic Director	Academic director with substantial years of industry experience which matches the business of model of appointed company.	Author's Computation
Public Service Affiliated Academic Director	Academic director with government and government agency related job experience. For instance, governor, mayor, judges, White House officials, government secretary, military officials, federal reserve officials etc.	Author's Computation
Democratic Academic Director	Academic director who directly or indirectly supports Democratic Party.	Author's Computation
Republican Academic Director	Academic director who directly or indirectly supports Republican Party.	Author's Computation

Appendix B

B.1: Distribution of Categorized Academic Directors

This table presents distribution of the total 6079 director-year observations for academic directors for years 2002 to 2011. *Academic Director* is a dummy variable which equals 1 if the director is affiliated with any academic institution; otherwise it equals 0. *Administrative Academic Director* is a dummy variable which equals 1 if the academic director is involved with an administrative role within academic institution; otherwise it equals 0. *STEMM Academic Director* is a dummy variable which equals 1 if the academic director has a background of science, technology, engineering, mathematics or medicine; otherwise it equals 0. *Business Academic Director* is a dummy variable which equals 1 if the academic director has a background of business or law; otherwise it equals 0. *Research Academic Director* is a dummy variable which equals 1 if the academic director is active in research align with appointed company's core business model; otherwise it equals 0. I*ndustry Experienced Academic Director* is a dummy variable which equals 1 if the academic director has significant industry experience in same industry that the appointed company runs its business; otherwise it equals 0. *Public Service Affiliated Academic Director* is a dummy variable which equals 1 if the academic director is affiliated with any public service job; otherwise it equals 0. *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0.

	Fiscal Year										
VARIABLES	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Academic Director	365 6%	565 9.29%	610 10.03%	636 10.46%	630 10.36%	639 10.51%	661 10.87%	703 11.56%	657 10.81%	613 10.08%	6,079 100%
Administrative Academic Director	215 6.39%	316 9.39%	334 9.93%	356 10.58%	357 10.61%	354 10.52%	362 10.76%	384 11.41%	359 10.67%	328 9.75%	3,365 100%
STEMM Academic Director	124 6.6%	178 9.47%	199 10.59%	203 10.8%	192 10.21%	193 10.27%	198 10.53%	212 11.28%	198 10.53%	183 9.73%	1,880 100%
Business Academic Director	135 4.77%	240 8.47%	265 9.36%	279 9.85%	289 10.2%	309 10.91%	324 11.44%	346 12.22%	330 11.65%	315 11.12%	2,832 100%
Research Focused Academic Professor	98 5.82%	162 9.61%	178 10.56%	180 10.68%	177 10.5%	175 10.39%	170 10.09%	189 11.22%	185 10.98%	171 10.15%	1,685 100%
Industry Experienced Academic Director	133 4.9%	229 8.43%	263 9.68%	275 10.13%	276 10.16%	290 10.68%	309 11.38%	329 12.11%	316 11.63%	296 10.9%	2,716 100%
Public Service Affiliated Academic Director	76 7.04%	102 9.45%	107 9.92%	114 10.57%	113 10.47%	109 10.1%	113 10.47%	126 11.68%	116 10.75%	103 9.55%	1,079 100%
Democratic Academic Director	60 7.67%	75 9.59%	79 10.1%	80 10.23%	77 9.85%	82 10.49%	87 11.13%	88 11.25%	83 10.61%	71 9.08%	782 100%
Republican Academic Director	39 6.44%	58 9.57%	63 10.4%	63 10.4%	65 10.73%	58 9.57%	62 10.23%	69 11.39%	67 11.06%	62 10.23%	606 100%

B.2: Number of Appointment of Academic Directors

This table presents the appointment distribution of academic directors in the corporate board. The sample includes 2,053 unique firms for years 2002 to 2011. Percentage is given in the parenthesis.

Number of Academic Director in a Board	Number of Companies
1 Academic Director	910 (44%)
2 Academic Directors	51 (2.5%)
More than 2 Academic Directors	13 (0.6%)

B.3: Descriptive Statistics regarding Board Composition

This table presents descriptive statistics regarding board which includes 12,484 director-year for years 2002 to 2011. *Independent Director Ratio* is the percentage of independent director in the board excluding academic directors. *Board Size* is the number of directors in the corporate board. *Duality* is a dummy variable which equals 1 if CEO is also the chairman of the board; otherwise it equals 0. *Interlocked Company* is a dummy variable which equals 1 if one of the board member has interlocked directorship; otherwise it equals 0. *Director Age* is the average age of all the directors in the board. *Director Tenure* is the average tenure of directorship of all the directors in the board. *Number of Directorship* is the average number of directorship of all the directors including current employment in the board. *Director Ownership* is the percentage of ownership of all the directors in the board. *Inside Ownership* is the percentage of ownership of all the executives in the company.

	n	mean	sd	min	p25	p50	p75	max
Independent Director Ratio	12484	0.697	0.15	0.00	0.60	0.71	0.82	1.00
Board Size	12484	9.452	2.51	1.00	8.00	9.00	11.00	34.00
Duality	12484	0.064	0.25	0.00	0.00	0.00	0.00	1.00
Interlocked Company	12484	0.022	0.15	0.00	0.00	0.00	0.00	1.00
Director Age	12484	60.978	4.04	7.88	58.50	61.13	63.56	77.83
Director Tenure	12482	10.354	3.88	1.00	7.67	9.82	12.50	31.33
Number of Directorship	12484	1.817	0.54	1.00	1.40	1.75	2.17	4.44
Director Ownership	12374	0.066	0.107	0.00	0.01	0.02	0.07	0.60
Inside Ownership	12168	0.029	0.06	0.00	0.00	0.01	0.02	0.36

B.4: Classification of Academic Director by Title

This table presents distribution of academic directors by their job title in academic institutions. The sample includes 6079 director-year observations for years 2002 to 2011.

Academic Title	Total Number	Percentage (%)
Professor	2,057	33.86
President	1,433	23.59
Dean	1,062	21.12
Institute Director	477	7.85
Others	362	5.96
Trustee	224	3.69
Chancellor	221	3.64
Department Chairman	176	2.90
Provost	63	1.04

B.5: Background of Academic Director

This table presents distribution of academic directors by their academic or career background. The sample includes 6079 director-year observations for years 2002 to 2011. The background is selected based on their highest educational degree or career path. In most cases, educational degree match with career path. If it does not match, we take whichever is more relevant to corporate board.

Subject	Total Number	Percentage (%)
Business	2,457	40.42
Medical/ Public Health	968	15.92
Science & Engineering	912	15.00
Social Science	510	8.39
Law	375	6.17
Political Science/Politics	338	5.56
Education	319	5.25
Others	167	2.75
Arts	33	0.54

Appendix C

C.1: Descriptive Statistics

This table presents descriptive statistics for firm-year sample which includes firms for years 2002 to 2011. COM_STR_N, DIV_STR_N, EMP_STR_N, ENV_STR_N, HUM_STR_N and PRO_STR_N are respectively the strengths of *Community, Diversity, Employee relations, Environment, Human Rights* and *Products* which are the 6 qualitative screens of KLD CSR index. CSR_STR_N is the sum of all the strengths of *Community, Diversity, Employee relations, Environment, Human Rights* and *Products*. Similarly, COM_CON_N, DIV_CON_N, EMP_CON_N, ENV_CON_N, HUM_CON_N and PRO_CON_N represent the concerns of each qualitative screen respectively and CSR_CON_N is the sum of all the concerns. CSR_N is the net overall CSR score obtained by subtracting CSR_CON_N from CSR_STR_N for each firm. *Tobin's Q* is the ratio firm's market value to book value ratio while market value is calculated as the book value of asset minus the book value of equity plus the market value of equity and book value is the total balance sheet value of asset. *Return on Asset (ROA)* is calculated as net income divided by total assets. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Director* is a dummy variable which equals 1 if the director is female; otherwise it equals 0. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Firm Size* is calculated as log of firm's total assets. *Firm Age* is the current number of years in the respective year since the firm first appearance in CRSP database. *CAPEX* is calculated as capital expenditure divided by total assets. *Leverage* is calculated as the book value of short-term debt plus the book value of long-term debt divided by total assets. *R&D Intensity* is calculated as R&D expenditure divided by total assets. *Advertising Intensity* is calculated as advertising expenditure divided by total assets. All the Compustat variables are winsorised at 1st and 99th percentiles.

	n	mean	sd	min	p25	p50	p75	max
CSR_N	12484	0.051	2.58	-9.00	-1.00	0.00	1.00	18.00
CSR_STR_N	12484	1.789	2.67	0.00	0.00	1.00	2.00	21.00
CSR_CON_N	12484	1.738	1.88	0.00	0.00	1.00	2.00	15.00
COM_N	12484	0.108	0.61	-2.00	0.00	0.00	0.00	5.00
DIV_N	12484	0.347	1.50	-3.00	-1.00	0.00	1.00	7.00
EMP_N	12484	-0.131	0.91	-4.00	-1.00	0.00	0.00	5.00
ENV_N	12484	0.021	0.91	-5.00	0.00	0.00	0.00	5.00
HUM_N	12484	-0.063	0.29	-3.00	0.00	0.00	0.00	1.00
PRO_N	12484	-0.232	0.70	-4.00	0.00	0.00	0.00	3.00
COM_STR_N	12484	0.216	0.58	0.00	0.00	0.00	0.00	5.00
DIV_STR_N	12484	0.797	1.25	0.00	0.00	0.00	1.00	7.00
EMP_STR_N	12484	0.359	0.70	0.00	0.00	0.00	1.00	5.00
ENV_STR_N	12484	0.318	0.79	0.00	0.00	0.00	0.00	5.00
HUM_STR_N	12484	0.012	0.11	0.00	0.00	0.00	0.00	1.00
PRO_STR_N	12484	0.088	0.30	0.00	0.00	0.00	0.00	3.00
COM_CON_N	12484	0.108	0.34	0.00	0.00	0.00	0.00	3.00
DIV_CON_N	12484	0.449	0.63	0.00	0.00	0.00	1.00	3.00
EMP_CON_N	12484	0.489	0.71	0.00	0.00	0.00	1.00	4.00
ENV_CON_N	12484	0.297	0.77	0.00	0.00	0.00	0.00	5.00
HUM_CON_N	12484	0.075	0.29	0.00	0.00	0.00	0.00	3.00
PRO_CON_N	12484	0.320	0.67	0.00	0.00	0.00	0.00	4.00
Tobin's Q	11605	1.843	0.99	0.82	1.16	1.50	2.12	6.17
Return on Asset (ROA)	12382	0.050	0.08	-0.30	0.01	0.05	0.09	0.25
Academic Company Dummy	12484	0.370	0.48	0.00	0.00	0.00	1.00	1.00
Academic Director Ratio	12484	0.047	0.07	0.00	0.00	0.00	0.10	0.50
Female Director	12484	0.162	0.37	0.00	0.00	0.00	0.00	1.00
Female Academic Director Dummy	12484	0.079	0.27	0.00	0.00	0.00	0.00	1.00
Female Academic Director Ratio	12484	0.010	0.03	0.00	0.00	0.00	0.00	0.29
Firm Size	12382	7.973	1.64	4.95	6.74	7.80	9.02	12.70

Firm Age	12419	25.977	19.41	0	12	20	36	86
CAPEX	12220	0.043	0.05	0	0.01	0.03	0.06	0.25
Leverage	12351	0.549	0.22	0.09	0.39	0.55	0.71	0.99
R&D Intensity	12384	0.023	0.04	0.00	0.00	0.00	0.03	0.20
Advertising Intensity	12384	0.010	0.03	0.00	0.00	0.00	0.01	0.15

C.2: Mean Comparison of CSR_N

This table presents the univariate tests on the difference between academic directors and non-academic directors with respect to CSR activity. *Academic Company Dummy* is a dummy variable which equal 1 if the company has at least 1 academic director in its corporate board in a particular year; otherwise it equals 0. *CSR_N* is the net overall CSR score for firm in a given year.

		CSR Score (CSR_N)				
		Mean	SD	N	Difference	TSTAT
Academic Company Dummy	0	-0.1803	0.025899	7869	0.6258***	12.37
	1	0.4455	0.043454	4615		

Asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10.

C.3: Correlation Table of Test Variables with Control Variables

This following table describes the correlation between different control variables. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0. *Tobin's Q* is the ratio firm's market value to book value ratio while market value is calculated as the book value of asset minus the book value of equity plus the market value of equity and book value is the total balance sheet value of asset. *R&D Intensity* is calculated as R&D expenditure divided by total assets. *Firm Size* is calculated as log of firm's total assets. *Firm Age* is the current number of years in the respective year since the firm first appearance in CRSP database. *Return on Asset (ROA)* is calculated as net income divided by total assets. *CAPEX* is calculated as capital expenditure divided by total assets. *Leverage* is calculated as the book value of short-term debt plus the book value of long-term debt divided by total assets. *Advertising Intensity* is calculated as advertising expenditure divided by total assets. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). Asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10.

N = 12,484	Academic Company Dummy	Academic Director Ratio	Female Academic Director Dummy	Female Academic Director Ratio	Democratic	Republican	Tobin's Q	R&D Intensity	Firm Size	Firm Age	Return on Asset (ROA)	CAPEX	Leverage	Advertising Intensity
Academic Company Dummy	1													
Academic Director Ratio	0.64***	1												
Female Academic Director Dummy	0.38***	0.24***	1											
Female Academic Director Ratio	0.41***	0.34***	0.87***	1										
Democratic	0.28***	0.17***	0.21***	0.20***	1									
Republican	0.24***	0.11***	0.09***	0.06***	-0.04***	1								
Tobin's Q	0.00	0.00	-0.04***	-0.03**	0.01	-0.03***	1							
R&D Intensity	0.03**	0.08***	-0.05***	-0.03**	-0.01	-0.02*	0.31***	1						
Firm Size	0.18***	0.13***	0.14***	0.13***	0.22***	0.17***	-0.25***	-0.26***	1					
Firm Age	0.13***	0.13**	0.13***	0.12***	0.12***	0.07***	-0.14***	-0.11***	0.35***	1				
Return on Asset (ROA)	0.00	-0.00	-0.00	0.00	0.01	-0.00	0.50***	-0.05***	-0.08***	0.01	1			
CAPEX	-0.02*	-0.03**	-0.01	-0.01	-0.03***	0.03***	0.10***	-0.09***	-0.11***	0.02*	0.16***	1		
Leverage	0.049***	-0.00	0.08***	0.07***	0.08***	0.04***	-0.34***	-0.35***	0.56***	0.21***	-0.27***	-0.15***	1	
Advertising Intensity	-0.02*	-0.03**	-0.01	-0.01	-0.02*	-0.01	0.16***	-0.03***	-0.11***	-0.00	0.11***	0.09***	-0.07***	1

C.4: Firm's CSR Activity

This table presents the OLS regression results of the relationship between academic director and female academic director with firm net overall CSR score, CSR strengths and CSR concerns. Dependent variable (CSR_N) is measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0. *Tobin's Q* is the ratio firm's market value to book value ratio while market value is calculated as the book value of asset minus the book value of equity plus the market value of equity and book value is the total balance sheet value of asset. *R&D Intensity* is calculated as R&D expenditure divided by total assets. *Firm Size* is calculated as log of firm's total assets. *Firm Age* is the current number of years in the respective year since the firm first appearance in CRSP database. *Return on Asset (ROA)* is calculated as net income divided by total assets. *CAPEX* is calculated as capital expenditure divided by total assets. *Leverage* is calculated as the book value of short-term debt plus the book value of long-term debt divided by total assets. *Advertising Intensity* is calculated as advertising expenditure divided by total assets. All the Compustat variables are winsorised at 1st and 99th percentiles. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10.

	(1) CSR_STR_N	(2) CSR_STR_N	(3) CSR_CON_N	(4) CSR_CON_N	(5) CSR_N	(6) CSR_N
Academic Company Dummy	0.122** (2.34)		-0.101*** (-2.86)		0.223*** (3.73)	
Academic Director Ratio		1.031*** (3.01)		-0.782*** (-3.52)		1.813*** (4.58)
Female Academic Director Dummy	0.360*** (3.49)		0.038 (0.52)		0.322*** (2.78)	
Female Academic Director Ratio		2.417*** (3.08)		-0.029 (-0.05)		2.445*** (2.69)
Democratic	0.543*** (3.53)	0.588*** (3.85)	0.177* (1.67)	0.164 (1.56)	0.365** (2.18)	0.424** (2.55)
Republican	0.163 (1.05)	0.216 (1.41)	0.153 (1.26)	0.128 (1.07)	0.010 (0.05)	0.088 (0.47)
Tobin's Q	0.231*** (8.49)	0.234*** (8.62)	0.076*** (4.04)	0.074*** (3.94)	0.155*** (4.96)	0.160*** (5.13)
R&D Intensity	10.183*** (14.69)	10.065*** (14.51)	-0.685 (-1.58)	-0.630 (-1.45)	10.868*** (13.22)	10.696*** (12.97)
Firm Size	1.195*** (51.77)	1.193*** (51.95)	0.615*** (36.44)	0.617*** (36.39)	0.581*** (21.99)	0.576*** (21.90)
Firm Age	0.018*** (12.36)	0.018*** (12.24)	0.015*** (12.68)	0.015*** (12.83)	0.003* (1.88)	0.003* (1.73)
Return on Asset (ROA)	1.548*** (4.61)	1.547*** (4.62)	-1.097*** (-4.45)	-1.100*** (-4.47)	2.645*** (6.60)	2.647*** (6.63)
CAPEX	1.837*** (3.34)	1.824*** (3.32)	-1.248*** (-2.68)	-1.245*** (-2.67)	3.085*** (4.30)	3.069*** (4.28)
Leverage	-0.450*** (-3.27)	-0.431*** (-3.14)	-0.245*** (-2.58)	-0.256*** (-2.70)	-0.205 (-1.27)	-0.175 (-1.08)
Advertising Intensity	7.660*** (7.08)	7.694*** (7.12)	0.773 (1.09)	0.779 (1.10)	6.888*** (5.54)	6.915*** (5.56)
Constant	-9.233***	-9.193***	-3.574***	-3.609***	-5.660***	-5.584***

	(-44.16)	(-44.27)	(-24.41)	(-24.59)	(-24.24)	(-24.05)
Observations	9,506	9,506	9,506	9,506	9,506	9,506
Adj. R^2	0.487	0.487	0.426	0.426	0.237	0.238
Industry Dummy	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES

C.5a: CSR Component – Community & Diversity

This table presents the OLS regression results of the relationship between academic director and female academic director with firm net overall CSR score, CSR strengths and CSR concerns in the case of Community and Diversity components. All the dependent variables are measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10. Control variables in this table are same as Table 4.

	Panel A						Panel B					
	(1) COM_ STR_N	(2) COM_ STR_N	(3) COM_ CON_N	(4) COM_ CON_N	(5) COM_ N	(6) COM_N	(1) DIV_ STR_N	(2) DIV_ STR_N	(3) DIV_ CON_N	(4) DIV_ CON_N	(5) DIV_ N	(6) DIV_N
Academic Company Dummy	0.013		-0.020***		0.033**		0.039		-0.042***		0.081***	
	(0.99)		(-2.82)		(2.28)		(1.56)		(-3.05)		(2.70)	
Academic Director Ratio		0.103		-0.092**		0.195**		0.385**		-0.326***		0.711***
		(1.30)		(-2.09)		(2.21)		(2.43)		(-3.84)		(3.69)
Female Academic Director Dummy	0.048*		0.070***		-0.022		0.181***		-0.164***		0.346***	
	(1.82)		(4.18)		(-0.72)		(3.70)		(-8.31)		(6.55)	
Female Academic Director Ratio		0.083		0.374***		-0.291		1.405***		-1.314***		2.719***
		(0.42)		(3.10)		(-1.25)		(3.58)		(-7.96)		(6.21)
Democratic	0.279***	0.292***	0.006	0.005	0.273***	0.287***	0.209***	0.218***	-0.020	-0.032	0.228***	0.250***
	(6.28)	(6.66)	(0.28)	(0.23)	(5.62)	(6.02)	(2.82)	(2.97)	(-0.70)	(-1.17)	(2.86)	(3.16)
Republican	0.092**	0.101**	0.041	0.038	0.051	0.063	0.116	0.133*	0.060*	0.041	0.056	0.092
	(2.00)	(2.21)	(1.59)	(1.47)	(1.02)	(1.28)	(1.56)	(1.81)	(1.80)	(1.24)	(0.69)	(1.15)
Observations	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506
Adj. R^2	0.288	0.288	0.233	0.232	0.163	0.163	0.413	0.413	0.235	0.236	0.408	0.408
Constant	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Control Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

C.5b: CSR Component – Employee Relations & Environment

This table presents the OLS regression results of the relationship between academic director and female academic director with firm net overall CSR score, CSR strengths and CSR concerns in the case of Employee Relations and Environment components. All the dependent variables are measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10. Control variables in this table are same as Table 4.

	Panel A						Panel B					
	(1) EMP_ STR_N	(2) EMP_ STR_N	(3) EMP_ CON_N	(4) EMP_ CON_N	(5) EMP_ N	(6) EMP_N	(1) ENV_ STR_N	(2) ENV_ STR_N	(3) ENV_ CON_N	(4) ENV_ CON_N	(5) ENV_ N	(6) ENV_N
Academic Company Dummy	0.043***		0.020		0.024		0.023		-0.037***		0.060***	
	(2.65)		(1.23)		(1.06)		(1.35)		(-2.59)		(2.80)	
Academic Director Ratio		0.273**		-0.048		0.321**		0.138		-0.180**		0.318**
		(2.53)		(-0.50)		(2.29)		(1.32)		(-2.02)		(2.50)
Female Academic Director Dummy	0.052		-0.056*		0.108**		0.031		0.120***		-0.089**	
	(1.63)		(-1.91)		(2.49)		(0.88)		(3.51)		(-2.06)	
Female Academic Director Ratio		0.424*		-0.472**		0.896***		0.083		0.818***		-0.735**
		(1.72)		(-2.11)		(2.67)		(0.33)		(3.23)		(-2.22)
Democratic	-0.012	0.002	0.094**	0.108***	-0.106*	-0.106*	0.102**	0.115**	-0.003	-0.010	0.105*	0.126**
	(-0.29)	(0.05)	(2.22)	(2.62)	(-1.82)	(-1.87)	(2.03)	(2.34)	(-0.06)	(-0.24)	(1.76)	(2.15)
Republican	0.037	0.054	-0.067	-0.055	0.104	0.110	-0.074	-0.062	0.098*	0.090*	-0.172**	-0.152**
	(0.74)	(1.12)	(-1.47)	(-1.23)	(1.52)	(1.63)	(-1.45)	(-1.25)	(1.79)	(1.65)	(-2.38)	(-2.14)
Observations	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506
Adj. R^2	0.252	0.252	0.255	0.255	0.126	0.126	0.386	0.386	0.453	0.453	0.242	0.242
Constant	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Control Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

C.5c: CSR Component – Human Rights & Product

This table presents the OLS regression results of the relationship between academic director and female academic director with firm net overall CSR score, CSR strengths and CSR concerns in the case of Human Rights and Product components. All the dependent variables are measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10. Control variables in this table are same as Table 4.

	Panel A						Panel B					
	(1) HUM_ STR_N	(2) HUM_ STR_N	(3) HUM_ CON_N	(4) HUM_ CON_N	(5) HUM_ N	(6) HUM_N	(1) PRO_ STR_N	(2) PRO_ STR_N	(3) PRO_ CON_N	(4) PRO_ CON_N	(5) PRO_ N	(6) PRO_N
Academic Company Dummy	-0.001 (-0.20)		0.005 (0.80)		-0.006 (-0.84)		0.004 (0.57)		-0.027** (-2.03)		0.031** (2.10)	
Academic Director Ratio		0.029 (1.54)		-0.046 (-1.21)		0.075* (1.80)		0.103** (2.14)		-0.091 (-1.07)		0.194** (2.00)
Female Academic Director Dummy	-0.004 (-0.83)		0.011 (0.82)		-0.016 (-1.10)		0.053*** (3.22)		0.058** (2.09)		-0.005 (-0.16)	
Female Academic Director Ratio		-0.089** (-2.46)		0.046 (0.47)		-0.134 (-1.33)		0.510*** (3.82)		0.520** (2.39)		-0.009 (-0.04)
Democratic	0.001 (0.18)	0.001 (0.16)	0.034 (1.44)	0.041* (1.73)	-0.033 (-1.38)	-0.040* (-1.69)	-0.036* (-1.67)	-0.041* (-1.92)	0.066* (1.68)	0.052 (1.37)	-0.102** (-2.22)	-0.093** (-2.07)
Republican	0.010 (0.94)	0.009 (0.83)	0.027 (1.10)	0.033 (1.37)	-0.017 (-0.66)	-0.024 (-0.97)	-0.018 (-0.80)	-0.018 (-0.83)	-0.006 (-0.15)	-0.017 (-0.41)	-0.012 (-0.24)	-0.001 (-0.02)
Observations	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506	9,506
Adj. R^2	0.092	0.093	0.209	0.209	0.144	0.144	0.131	0.132	0.360	0.360	0.245	0.245
Constant	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Control Variables	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

C.5d: CSR Component – Corporate Governance

This table presents the OLS regression results of the relationship between academic director and female academic director with firm net overall CSR score, CSR strengths and CSR concerns in the case of Corporate Governance components. All the dependent variables are measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Academic Company Dummy* is a dummy variable which equals 1 if the company has at least 1 academic director in its corporate board; otherwise it equals 0. *Academic Director Ratio* is the percentage of academic director appointed in the corporate board. *Female Academic Director Dummy* is a dummy variable which equals 1 if the director is both a female and an academic director; otherwise it equals 0. *Female Academic Director Ratio* is the percentage of female academic director appointed in the corporate board (total number of female academic director divided by total number of director in board). *Democratic Academic Director* is a dummy variable which equals 1 if the academic director supports Democratic Party; otherwise it equals 0. *Republican Academic Director* is a dummy variable which equals 1 if the academic director supports Republican Party; otherwise it equals 0. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10. Control variables in this table are same as Table 4.

	Panel A					
	(1) CGOV_ STR_N	(2) CGOV_ STR_N	(3) CGOV_ CON_N	(4) CGOV_ CON_N	(5) CGOV_ N	(6) CGOV_N
Academic Company Dummy	-0.017* (-1.90)		-0.044*** (-3.13)		0.027 (1.53)	
Academic Director Ratio		0.038 (0.66)		-0.346*** (-4.04)		0.384*** (3.49)
Female Academic Director Dummy	0.029 (1.57)		-0.017 (-0.68)		0.046 (1.42)	
Female Academic Director Ratio		0.070 (0.50)		0.001 (0.00)		0.069 (0.27)
Democratic	0.106*** (3.87)	0.099*** (3.63)	0.082** (2.08)	0.067* (1.74)	0.024 (0.50)	0.031 (0.68)
Republican	0.023 (0.87)	0.014 (0.52)	0.057 (1.47)	0.042 (1.11)	-0.034 (-0.70)	-0.029 (-0.59)
Observations	9,506	9,506	9,506	9,506	9,506	9,506
Adj. R^2	0.118	0.117	0.224	0.224	0.109	0.110
Constant	YES	YES	YES	YES	YES	YES
Control Variables	YES	YES	YES	YES	YES	YES
Industry Dummy	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES

C.6a: Academic Directors' Educational and Experience Effect – One by one

This table presents the OLS regression results of the relationship between different categories of academic director and firm CSR strengths, CSR concerns and net overall CSR score. Dependent variables are measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Administrative Academic Director* is a dummy variable which equals 1 if the academic director is involved with an administrative role within academic institution; otherwise it equals 0. *STEMM Academic Director* is a dummy variable which equals 1 if the academic director has a background of science, technology, engineering, mathematics or medicine; otherwise it equals 0. *Business Academic Director* is a dummy variable which equals 1 if the academic director has a background of business or law; otherwise it equals 0. *Industry Experienced Academic Director* is a dummy variable which equals 1 if the academic director has significant industry experience in same industry that the appointed company runs its business; otherwise it equals 0. *Research Academic Director* is a dummy variable which equals 1 if the academic director is active in research align with appointed company's core business model; otherwise it equals 0. *Public Service Affiliated Academic Director* is a dummy variable which equals 1 if the academic director is affiliated with any public service job; otherwise it equals 0. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10. Control variables in this table are same as Table 4.

	(1) CSR_STR_N	(2) CSR_CON_N	(3) CSR_N		(1) CSR_STR_N	(2) CSR_CON_N	(3) CSR_N
Panel A				*Panel D*			
Administrative	0.075***	-0.041***	0.282***	Industry Experienced	0.060***	-0.006	0.437***
	(4.39)	(-4.66)	(4.00)		(3.68)	(-0.66)	(5.86)
Observations	9,506	9,506	9,506	Observations	9,506	9,506	9,506
Adj. R^2	0.277	0.229	0.236	Adj. R^2	0.276	0.227	0.238
Constant	YES	YES	YES	Constant	YES	YES	YES
Control Var.	YES	YES	YES	Control Var.	YES	YES	YES
Industry Dummy	YES	YES	YES	Industry Dummy	YES	YES	YES
Year Dummy	YES	YES	YES	Year Dummy	YES	YES	YES
Panel B				*Panel E*			
STEMM	0.054***	0.014	0.085	Research Focused	0.008	0.001	0.105
	(2.73)	(1.15)	(1.00)		(0.43)	(0.08)	(1.23)
Observations	9,506	9,506	9,506	Observations	9,506	9,506	9,506
Adj. R^2	0.275	0.228	0.235	Adj. R^2	0.275	0.227	0.235
Constant	YES	YES	YES	Constant	YES	YES	YES
Control Var.	YES	YES	YES	Control Var.	YES	YES	YES
Industry Dummy	YES	YES	YES	Industry Dummy	YES	YES	YES
Year Dummy	YES	YES	YES	Year Dummy	YES	YES	YES
Panel C				*Panel F*			
Business	0.011	-0.045***	0.283***	Public Service Affiliated	0.140***	0.079***	0.269**
	(0.70)	(-5.57)	(4.08)		(4.71)	(4.50)	(2.05)
Observations	9,506	9,506	9,506	Observations	9,506	9,506	9,506
Adj. R^2	0.275	0.230	0.236	Adj. R^2	0.278	0.230	0.235
Constant	YES	YES	YES	Constant	YES	YES	YES
Control Var.	YES	YES	YES	Control Var.	YES	YES	YES
Industry Dummy	YES	YES	YES	Industry Dummy	YES	YES	YES
Year Dummy	YES	YES	YES	Year Dummy	YES	YES	YES

C.6b: Academic Directors' Educational and Experience Effect – All together

This table presents the OLS regression results of the relationship between different categories of academic director and firm CSR strengths, CSR concerns and net overall CSR score. Dependent variables are measured in T+1 period while the independent variables are measured in T period. Thus, the sample size reduces from 12,484 to 9,506 director-year observations for these models. *Administrative Academic Director* is a dummy variable which equals 1 if the academic director is involved with an administrative role within academic institution; otherwise it equals 0. *STEMM Academic Director* is a dummy variable which equals 1 if the academic director has a background of science, technology, engineering, mathematics or medicine; otherwise it equals 0. *Business Academic Director* is a dummy variable which equals 1 if the academic director has a background of business or law; otherwise it equals 0. *Industry Experienced Academic Director* is a dummy variable which equals 1 if the academic director has significant industry experience in same industry that the appointed company runs its business; otherwise it equals 0. *Research Academic Director* is a dummy variable which equals 1 if the academic director is active in research align with appointed company's core business model; otherwise it equals 0. *Public Service Affiliated Academic Director* is a dummy variable which equals 1 if the academic director is affiliated with any public service job; otherwise it equals 0. Robust T-stats are in brackets and asterisks refer to significance levels: ***p<0.01, **<0.05 and *<0.10. Control variables in this table are same as Table 4.

	(1)	(2)	(3)	(4)	(5)	(6)
	CSR_STR_N	CSR_CON_N	CSR_N	CSR_STR_N	CSR_CON_N	CSR_N
Administrative	0.056***	-0.047***	0.172**	0.047***	-0.059***	0.180**
	(2.92)	(-4.47)	(2.04)	(2.63)	(-6.03)	(2.30)
STEMM	0.027	0.014	0.059	0.029	0.032**	-0.107
	(1.05)	(0.82)	(0.53)	(1.26)	(2.15)	(-1.08)
Business	-0.009	-0.031***	0.220***			
	(-0.52)	(-3.06)	(2.61)			
Industry Experienced				0.023	-0.007	0.383***
				(1.32)	(-0.75)	(4.75)
Research Focused	-0.003	0.003	0.025	-0.005	-0.011	0.155*
	(-0.13)	(0.20)	(0.25)	(-0.25)	(-0.85)	(1.65)
Public Service Affiliated	0.119***	0.097***	0.182	0.113***	0.099***	0.081
	(4.03)	(5.41)	(1.38)	(3.70)	(5.54)	(0.60)
Observations	9,506	9,506	9,506	9,506	9,506	9,506
Adj. R2	0.279	0.235	0.237	0.279	0.234	0.239
Constant	YES	YES	YES	YES	YES	YES
Control Var.	YES	YES	YES	YES	YES	YES
Industry Dummy	YES	YES	YES	YES	YES	YES
Year Dummy	YES	YES	YES	YES	YES	YES